Serial No.: 08/923,227 -2 - Art Unit: 1711

Conf. No.: 5092

## In the Claims

Please replace all prior versions, and listings, of claims in the application with the following list of claims:

## 1-32. (Canceled)

33. (Currently Amended) A method of increasing localized bloodflow in tissue[[s]] to increase growth rate and repair of cells by delivering to skin a substance that is a nitric oxide precursor selected from the group consisting of L-arginine and L-arginine derivatives, to skin the method comprising the step of:

applying topically to the skin a delivery vehicle for the substance, said delivery vehicle eontaining comprising an effective amount of the substance effective to increase localized tissue bloodflow when combined with a concentration of an agent for creating a hostile biophysical environment at a concentration sufficient to create a the hostile biophysical environment, which the hostile biophysical environment eauses causing the substance to migrate from the delivery vehicle to the skin where the substance is absorbed by tissue eausing increased rate of repair of cells in the area surrounding the skin wherein the substance was is applied.

- 34. (Currently Amended) The method of claim 33 wherein the delivery vehicle <u>is</u> selected from the group consisting of topical creams, topical liquids, topical lotions, and topical ointments containing the substance, and the delivery vehicle further comprising the <u>an</u> ionic salt <u>is a mixture comprising</u>, by weight, sodium chloride (0.25% to 25%), choline chloride (0.25% to 25%), and magnesium chloride (0.25% to 25%) is applied to the skin.
- 35. (Currently Amended) The method of claim 33 wherein the delivery vehicle is a hydrophobic delivery vehicle containing comprising the substance and the an ionic salt is a mixture comprising, by weight, sodium chloride (0.25% to 25%), choline chloride (0.25% to 25%), and magnesium chloride (0.25% to 25%) applied to the skin.

Serial No.: 08/923,227 - 3 - Art Unit: 1711

Conf. No.: 5092

36-37. (Canceled)

38. (Currently Amended) The method of claim 33 wherein the act of applying comprises applying a transdermal patch containing comprising the substance and a penetrating agent is applied to the skin.

39. (Currently amended) A method of delivering to skin a nitric oxide releasing substance selected from the group consisting of L-arginine, L-arginine salts, and L-arginine derivatives, to skin the method comprising the step of:

applying topically to the skin a delivery vehicle for the substance, said delivery vehicle containing comprising an effective amount of the substance[[,]] and an concentration of ionic salt at a concentration sufficient to create a hostile biophysical environment, which the hostile biophysical environment causes causing the substance to migrate from the delivery vehicle to the skin where the substance is absorbed by tissue,

wherein said delivery vehicle comprises, by weight, water (20%-80%), mineral oil (3%-18%), glyceryl stearate (0.5%-12%), squalene (0.2%-12%), cetyl alcohol (0.1%-11%), propylene glycol stearate (0.1%-11%), wheat germ oil (0.1%-6%), glyceryl stereate (0.1%-6%), isopropyl myristate (0.1%-6%), stearyl stereate (0.1%-6%), polysorbate 60 (0.1%-5%), propylene glycol (0.05%-5%), tocopherol acetate (0.05%-5%), collagen (0.05%-5%), sorbitan stearate (0.05%-5%), vitamin A&D (0.02%-4%), triethanolamine (0.01%-4%), methylparaben (0.01%-4%), aloe vera extract (0.01%-4%), imidazolidinyl urea (0.01%-4%), propylparaben (0.01%-4%), bha (0.01%-4%), L-arginine hydrocholide (0.25% to 25%), sodium chloride (0.25% to 25%), and magnesium chloride (0.25% to 25%) is applied to the skin.

- 40. (Currently amended) The method of claim 39 wherein [[a]] the delivery vehicle also further including comprises choline chloride (0.25%-25% by weight) is applied to the skin.
- 41. (Currently amended) The method of claim 39 wherein [[a]] the delivery vehicle further containing comprises L-arginine glutamate (0.25%-25% by weight) is applied to the skin.

Serial No.: 08/923,227 - 4 - Art Unit: 1711

Conf. No.: 5092

42. (Currently amended) A method of treating impotence in a male comprising:

delivering to a penis a substance that is a nitric oxide precursor selected from the group consisting of L-arginine and L-arginine derivatives to the penis by topically applying to the penis a delivery vehicle for the substance, said delivery vehicle containing comprising an effective amount of the substance effective to increase penis bloodflow in the penis when combined with a concentration of an agent for creating a hostile biophysical environment at a concentration sufficient to create a the hostile biophysical environment, which the hostile biophysical environment causes causing the substance to migrate from the delivery vehicle to the penis where the substance is absorbed by tissue the penis.

- 43. (Currently amended) The method of claim 42 wherein the delivery vehicle <u>is</u> selected from the group consisting of topical creams, topical liquids, topical lotions, and topical ointments <u>containing the substance</u>, <u>the substance</u> is L-arginine hydrochloride, <u>0</u>.25% to 25% by weight, and the <u>delivery vehicle further comprising an</u> ionic salt <u>mixture</u> is <u>comprising</u> choline chloride at 10% by weight, sodium chloride at 10% by weight, and magnesium chloride at 5% by weight.
- 44. (Currently amended) The method of claim 42 wherein the delivery vehicle is a hydrophobic delivery vehicle containing comprising the substance, wherein the substance is L-arginine hydrochloride at 12.5% by weight, and wherein the delivery vehicle further comprises the an ionic salt mixture is comprising choline chloride at 10% by weight, sodium chloride at 10% by weight and magnesium chloride at 5% by weight is applied to the penis.

45-46. (Canceled)

47. (Currently amended) A method of treating impotence in a male comprising: by delivering to skin a nitric oxide releasing substance selected from the group consisting of L-arginine, L-arginine salts, and L-arginine derivatives, to skin the method comprising

Serial No.: 08/923,227 - 5 - Art Unit: 1711

Conf. No.: 5092

the step of[[;]]:

applying topically to the <u>a</u> penis a delivery vehicle for the substance, said delivery vehicle containing comprising an effective amount of the substance[[,]] and an eoncentration of ionic salt <u>at a concentration</u> sufficient to create a hostile biophysical environment, which the hostile biophysical environment causes causing the substance to migrate from the vehicle to the penis where the substance is absorbed by tissue,

wherein said delivery vehicle comprises, by weight, water (20%-80%), mineral oil (3%-18%), glyceryl stearate (0.5%-12%), squalene (0.2%-12%), cetyl alcohol (0.1%-11%), propylene glycol stearate (0.1%-11%), wheat germ oil (0.1%-6%), glyceryl stereate (0.1%-6%), isopropyl myristate (0.1%-6%), stearyl stereate (0.1%-6%), polysorbate 60 (0.1%-5%), propylene glycol (0.05%-5%), tocopherol acetate (0.05%-5%), collagen (0.05%-5%), sorbitan stearate (0.05%-5%), vitamin A&D (0.02%-4%), triethanolamine (0.01%-4%), methylparaben (0.01%-4%), aloe vera extract (0.01%-4%), imidazolidinyl urea (0.01%-4%), propylparaben (0.01%-4%), bha (0.01%-4%), L-arginine hydrocholide (0.25% to 25%), sodium chloride (0.25% to 25%), and magnesium chloride (0.25% to 25%) is applied to the penis.

- 48. (Currently amended) The method of claim 47 wherein the delivery vehicle further comprising comprises choline chloride (0.25%-25% by weight) is applied to the penis.
- 49. (Currently amended) The method of claim 47 wherein the delivery vehicle further containing comprises of L-arginine glutamate (0.25%-25% by weight) is applied to the penis.
- 50. (Currently amended) The method according to any <u>one</u> of the preceding claims <u>42-49</u> wherein the delivery vehicle is contained in a condom which is placed on the penis.
- 51. (Currently amended) A method of promoting hair growth comprising:

delivering, to a selected area of skin where hair growth is desired, a substance that is a nitric oxide precursor selected from [[a]] the group consisting of L-arginine and L-arginine derivatives to a selected area of the skin where hair growth is desired, by

Serial No.: 08/923,227 - 6 - Art Unit: 1711

Conf. No.: 5092

topically applying, to the selected area of skin where hair growth is desired, a delivery vehicle for the substance, said delivery vehicle containing comprising an effective amount of the substance effective to increase localized tissue bloodflow when combined with a concentration of an agent for creating a hostile biophysical environment at a concentration sufficient to create a the hostile biophysical environment, which the hostile biophysical environment causes causing the substance to migrate from the delivery vehicle, to the selected area of the skin where hair growth is desired, where the substance is absorbed by tissue causing hair growth the selected area of the skin.

- from the group consisting of topical creams, topical liquids, topical lotions, and topical ointments and is applied to the selected area of skin where hair growth is desired wherein, the delivery vehicle further comprising the an ionic salt is a mixture comprising, by weight, sodium chloride (0.25% to 25%), choline chloride (0.25% to 25%), and magnesium chloride (0.25% to 25%) and mixtures thereof.
- 53. (Currently amended) The method of claim 51 wherein the delivery vehicle is a hydrophobic delivery vehicle containing comprising the substance, a penetrating agent, and the an ionic salt is applied to the selected area of skin where hair growth is desired.

54-55. (Canceled)

(Currently amended) A method of promoting hair growth eomprising: by delivering, to a selected area of skin where hair growth is desired, a nitric oxide releasing substance selected from the group consisting of L-arginine, L-arginine salts, and L-arginine derivatives, to a selected area of the skin where hair growth is desired by the method comprising:

topically applying, to the selected area of the skin where hair growth is desired, by a delivery vehicle for the substance, said delivery vehicle comprising the substance and an eoncentration of ionic salt at a concentration sufficient to create a hostile biophysical environment, which the hostile biophysical environment eauses causing the substance to

Serial No.: 08/923,227 - 7 - Art Unit: 1711

Conf. No.: 5092

migrate from the delivery vehicle to the <u>selected area of the</u> skin <u>where hair growth is</u> <u>desired</u>, where the substance is absorbed by <u>tissue</u> the <u>selected area of the skin</u>,

wherein said delivery vehicle comprises, by weight water (20%-80%), mineral oil (3%-18%), glyceryl stearate (0.5%-12%), squalene (0.2%-12%), cetyl alcohol (0.1%-11%), propylene glycol stearate (0.1%-11%), wheat germ oil (0.1%-6%), glyceryl stereate (0.1%-6%), isopropyl myristate (0.1%-6%), stearyl stereate (0.1%-6%), polysorbate  $60 \ (0.1\%-5\%)$ , propylene glycol (0.05%-5%), tocopherol acetate (0.05%-5%), collagen (0.05%-5%), sorbitan stearate (0.05%-5%), vitamin A&D (0.02%-4%), triethanolamine (0.01%-5%), methylparaben (0.01%-4%), aloe vera extract (0.01%-4%), imidazolidinyl urea (0.01%-4%), propylparaben (0.01%-4%), bha (0.01%-4%), L-arginine hydrocholide (0.25% to 25%), sodium chloride (0.25% to 25%), and magnesium chloride (0.25% to 25%) is applied to the selected area of skin where hair growth is desired.

- 57. (Currently amended) The method of claim 56 wherein [[a]] the delivery vehicle further comprising comprises choline chloride (0.25%-25% by weight) is applied to the selected area of skin where hair growth is desired.
- (Currently amended) The method of claim 56 wherein [[a]] the delivery vehicle also further comprising comprises L-arginine glutamate (0.25%-25% by weight) is applied to the selected area of skin where hair growth is desired.
- (Currently amended) The method of claim 51 wherein a transdermal patch containing contains the delivery vehicle, and wherein the substance in the delivery vehicle is selected from the group consisting of L-arginine glutamate (0.25% to 25% by weight), L-arginine hydrochloride (0.25% to 25% by weight) and mixtures thereof is applied to the skin where hair growth is desired.
- 60. (Canceled)

Serial No.: 08/923,227 - 8 - Art Unit: 1711

Conf. No.: 5092

61. (Currently amended) A method of delivering to skin a substance that is a nitric oxide precursor selected from the group consisting of L-arginine and L-arginine derivatives, to skin the method comprising the step of:

topically applying to the skin a delivery vehicle for the substance, said delivery vehicle containing comprising an effective amount of the substance of at a concentration of 0.25% to 25% by weight, the substance contained within a-packaging selected from the group consisting of a liposome, an emulsion of collagen, or and a collagen peptide[[s]], said packaging being at a concentration within the delivery vehicle sufficient to create an hostile biophysical environment, which the hostile biophysical environment causes causing the liposomes packaging to migrate from the delivery vehicle to the skin where the substance is released from the packaging and absorbed by tissue.

- 62. (Currently Amended) The method of claim 61 wherein the delivery vehicle for the substance is applied to the penis so that the packaging migrate from the delivery vehicle to the penis where the substance is released from the packaging and absorbed by tissue.
- 63. (Currently Amended) The method of claim 61 wherein the delivery vehicle for the substance is applied to the a selected area of skin where hair growth is desired so that the liposomes migrate from the delivery vehicle to the skin where the substance is released from the liposome and absorbed by tissue.
- 64. (Currently amended) A method of topically treating a medical condition comprising the steps of:

selecting a condition from the group consisting of baldness, poor localized <del>blood</del> bloodflow, leg ulcers, superficial ulcers, bedsores confinement and erectile dysfunction;

selecting a nitric oxide precursor means;

selecting a means of delivering the substance to the skin from the group consisting of topical creams, topical lotions, and topical ointments; and

topically applying topically, to the skin having the selected condition, an effective amount of the nitric oxide precursor means, the nitric oxide precursor means, wherein the

Serial No.: 08/923,227 - 9 - Art Unit: 1711

Conf. No.: 5092

nitric oxide precursor means being is 0.25% to 25% by weight of the means of delivering the substance to the skin.

65. (Currently amended) The method of topically treating a medical condition of claim 64 further comprising the steps of:

selecting a means of producing a hostile biophysical environment which increases the migration delivery of the nitric oxide precursor means into the skin; and

topically applying the means of producing a hostile biophysical environment to the skin.

- 66. (Currently amended) The method of topically treating a medical condition of claim 65 wherein the means of producing [[a]] the hostile biophysical environment is an ionic salt having a concentration of 0.25% to 25% by weight of the means of delivering the substance to the skin.
- 67. (Currently amended) The method of topically treating a medical condition of claim 66 wherein the nitric oxide precursor means is selected from the group consisting of D,L-arginine, L-arginine, alkyls of L-arginine, esters of L-arginine, and salts of L-arginine.
- 68. (Canceled)
- 69. (Currently amended) The method of topically treating a medical condition of claim 67 wherein the salts of L-arginine are selected from the group consisting of hydrochloride, glutamate, butyrate, and glycolate.
- 70. (Currently amended) The method of increasing localized blood flow bloodflow in tissue[[s]] to increase growth and repair of cells of claim 33 wherein an the effective amount of the substance is 0.25% to 25% by weight of the delivery vehicle.
- 71. (Currently amended) The method of increasing localized bloodflow in tissue[[s]] to increase growth and repair of cells of claim 33 wherein the agent for creating a hostile

Serial No.: 08/923,227 - 10 - Art Unit: 1711

Conf. No.: 5092

<u>biophysical environment</u> is a salt selected from the group consisting of sodium chloride, choline chloride, potassium chloride, lithium chloride, magnesium chloride, L-arginine chloride, L-arginine gluamate, L-arginine butyrate, L-arginine gluamate and mixtures thereof.

- 72. (Currently amended) The method of increasing localized bloodflow in tissue[[s]] to increase growth and repair of cells of claim 71 wherein the agent for creating a hostile biophysical environment has a concentration of 0.25% to 25% by volume of the delivery vehicle.
- 73. (Currently amended) The method of increasing localized bloodflow in tissue[[s]] to increase growth and repair of cells of claim 33 wherein the agent for creating a hostile biophysical environment is selected from [[a]] the group consisting of a high ionic strength environment, neutralization of L arginine's charge in a complex, inclusion in a liposome, high pH, low pH, pharmaceutically acceptable acid[[s]], a pharmaceutically acceptable base[[s]], highly hydrophobic environments, polylysine, polyglutamine, polyasparate, and copolymers of charged amino acids, oleoresin, and capsicum.
- 74. (Currently amended) The method of treating impotence of claim 42 wherein an the effective amount of the substance is 0.25% to 25% by weight of the delivery vehicle.
- 75. (Currently amended) The method of treating impotence of claim 42 wherein the agent for creating a hostile biophysical environment is a salt selected from the group consisting of sodium chloride, choline chloride, potassium chloride, lithium chloride, magnesium chloride, L-arginine chloride, L-arginine gluamate, L-arginine butyrate, L-arginine gluamate and mixtures thereof.
- 76. (Currently amended) The method of treating impotence of claim 75 wherein the agent for creating a hostile biophysical environment has a concentration of 0.25% to 25% by volume of the delivery vehicle.

Serial No.: 08/923,227 - 11 - Art Unit: 1711

Conf. No.: 5092

77. (Currently amended) The method of treating impotence of claim 42 wherein the agent for creating a hostile biophysical environment is selected from [[a]] the group consisting of a high ionic strength environment, neutralization of L-arginine's charge in a complex, inclusion in a liposome, high pH, low pH, pharmaceutically acceptable acid[[s]], a pharmaceutically acceptable base[[s]], highly hydrophobic environments, polylysine, polyglutamine, polyasparate, and copolymers of charged amino acids, oleoresin, and capsicum.

- 78. (Currently amended) The method of promoting hair growth of claim 51 wherein an the effective amount of the substance is 0.25% to 25% by weight of the delivery vehicle.
- 79. (Currently amended) The method of promoting hair growth of claim 51 wherein the agent for creating a hostile biophysical environment is a salt selected from the group consisting of sodium chloride, choline chloride, potassium chloride, lithium chloride, magnesium chloride, L-arginine chloride, L-arginine gluamate, L-arginine butyrate, L-arginine glutamate and mixtures thereof.
- 80. (Currently amended) The method of promoting hair growth of claim 79 wherein the agent for creating a hostile biophysical environment has a concentration of 0.25% to 25% by volume of the delivery vehicle.
- 81. (Currently amended) The method promoting hair growth of claim 51 wherein the agent for creating a hostile biophysical environment is selected from [[a]] the group consisting of a high ionic strength environment, neutralization of L arginine's charge in a complex, inclusion in a liposome, high pH, low pH, pharmaceutically acceptable acid[[s]], a pharmaceutically acceptable base[[s]], highly hydrophobic environments, polylysine, polyglutamine, polyaseparate, and copolymers of charged amino acids, oleoresin, and capsicum.